

# SEQUENCE LISTING

<110> Leonard, Sherry  
 Freeman, Robert

<120> Promoter Variants in the Alpha-7 Nicotinic Acetylcholine Receptor  
 Gene

<130> VARD-07989

<150> 08/956,518  
 <151> 1997-10-23

<160> 180

<170> PatentIn version 3.2

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| <220> |                           |    |
| <223> | Synthetic                 |    |
| <400> | 81                        |    |
|       | gtagagtgtc ctgcggc        | 17 |
|       |                           |    |
| <210> | 82                        |    |
| <211> | 18                        |    |
| <212> | DNA                       |    |
| <213> | Artificial Sequence       |    |
| <220> |                           |    |
| <223> | Synthetic                 |    |
| <400> | 82                        |    |
|       | ggtccgctac attgccaa       | 18 |

<210> 83  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic

<400> 83  
tgatggtgaa gaccgagaag g

21

<210> 84  
<211> 55  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic

<220>  
<221> misc\_feature  
<222> (1)..(48)  
<223> n is a, c, g, or t

<400> 84  
nnnnnnnnnnnn nnnnnnnnnnnn nnnnnnnnnnnn nnnnnnnnnnnn nnnnnnnnnct gcacg

55

<210> 85  
<211> 10  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic

<400> 85  
tctccttaag

10

<210> 86  
<211> 10  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic

<400> 86  
ttttttgaag

10

|       |                     |    |
|-------|---------------------|----|
| <210> | 87                  |    |
| <211> | 10                  |    |
| <212> | DNA                 |    |
| <213> | Artificial Sequence |    |
| <220> |                     |    |
| <223> | Synthetic           |    |
| <400> | 87                  |    |
|       | tgtgtgtcag          | 10 |
|       |                     |    |
| <210> | 88                  |    |
| <211> | 11                  |    |
| <212> | DNA                 |    |
| <213> | Artificial Sequence |    |
| <220> |                     |    |
| <223> | Synthetic           |    |
| <400> | 88                  |    |
|       | ctgtttctag t        | 11 |
|       |                     |    |
| <210> | 89                  |    |
| <211> | 10                  |    |
| <212> | DNA                 |    |
| <213> | Artificial Sequence |    |
| <220> |                     |    |
| <223> | Synthetic           |    |
| <400> | 89                  |    |
|       | acccacacag          | 10 |
|       |                     |    |
| <210> | 90                  |    |
| <211> | 10                  |    |
| <212> | DNA                 |    |
| <213> | Artificial Sequence |    |
| <220> |                     |    |
| <223> | Synthetic           |    |
| <400> | 90                  |    |
|       | ccctatggag          | 10 |
|       |                     |    |
| <210> | 91                  |    |
| <211> | 10                  |    |
| <212> | DNA                 |    |
| <213> | Artificial Sequence |    |
| <220> |                     |    |
| <223> | Synthetic           |    |
| <400> | 91                  |    |
|       | tatgttttag          | 10 |

<210> 92  
 <211> 10  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic

<400> 92  
 ctctccacag

10

<210> 93  
 <211> 10  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic

<400> 93  
 gtctccccag

10

<210> 94  
 <211> 457  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic

|                                                                   |     |
|-------------------------------------------------------------------|-----|
| <400> 94                                                          |     |
| agaacgcaag ggagaggtag agcctggcct tgggcagccc ctggcctggc cagaggcgcg | 60  |
| aggccgagag cccgctcgtt ggagactggg ggtggaggtg cccggagcgt acccagcgcc | 120 |
| gggagtacct cccgctcaca cctcgggctg cagttccctg ggtggccgcc gagacgtgg  | 180 |
| cccgggctgg agggatggcg gggcggggac gggggcgggg gcggggctcg tcacgtggag | 240 |
| aggcgcgcgg gggcgggcgg ggcgggggcg cgcgcccggc tccttaaagg cgcgcgagcc | 300 |
| gagcggcgag gtgcctctgt ggccgcaggc gcaggcccgg gcgacagccg agacgtggag | 360 |
| cgcgccggct cgctgcagct ccgggactca acatgcgctg ctgcgggga ggcgtctggc  | 420 |
| tggcgctggc cgcgtcgctc ctgcacggta aagccac                          | 457 |

<210> 95  
 <211> 307  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic

<400> 95  
caggccgcca catagctccc gccaaagtcct cggtgcccct tgccattttc cagccgcgtc 60  
ccacgaggggt cacggcggcg gggagagggtg gagccgcgag agctcggccg ggggccccgc 120  
ctggtggccg cggccatgac agcggctcgg gactggctcc ttttcgcgc ccctcccgcc 180  
ggaggtgagg ggaagatgtc catgtcaggg ttcaaggcca aaccgaagtt actggcctct 240  
atcttccagg agaaccagga gccacagccg cggctcacgc cccaccgcaa cattaagggtg 300  
agtcgcc 307

<210> 96  
<211> 145  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic

<400> 96  
ctcattttcag attacaagtg gacacctgag tcagcaggac ctggaatccc agatgagaga 60  
gcttatctac acgactcaga tcttggtgtc acccccatta ttgacaatcc aaagggtgcag 120  
aaagcactct gacaagtgtg ttgta 145

<210> 97  
<211> 84  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic

<400> 97  
ttaaccacag ataatgaaac aaccaccatc ggttaaattt gatgcaaaaa tattgcatct 60  
accagcattt tcaggttagga tcat 84

<210> 98  
<211> 67  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic

<400> 98  
tttattctag ttccaattgc taatccagca tttgtggata gctgcaaact gcgatatgta 60  
agtaaca 67

<210> 99  
 <211> 100  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic  
  
 <400> 99  
 ctgtttctag tgctgatgag cgctttgacg ccacattcca cactaacgtg ttggtgaatt 60  
 cttctgaggca ttgccagtac ctgcctccag gtaagctgca 100  
  
 <210> 100  
 <211> 37  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic  
  
 <400> 100  
 acccacacag gcatattcaa gagttcctgc tacatcg 37  
  
 <210> 101  
 <211> 392  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic  
  
 <400> 101  
 agaacgcaag ggagaggtag agcctggcct tgggcagccc ctggcctggc cagaggcgcg 60  
 aggccgagag cccgctcggt ggagactggg ggtggaggtg cccggagcgt acccagcgcc 120  
 gggagtacct cccgctcaca cctcgggctg cagttccctg ggtggccgcc gagacgctgg 180  
 cccgggcttg agggatggcg gggcggggac gggggcgggg gcggggctcg tcacgtggag 240  
 aggcgcgcgg gggcgggcgg ggccggggcg cgcgcccggc tccttaaagg cgcgcgagcc 300  
 gagcggcgag gtgcctctgt ggccgcaggc gcaggcccgg gcgacagccg agacgtggag 360  
 cgcgccggct cgctgcagct ccgggactca ac 392  
  
 <210> 102  
 <211> 689  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic

<400> 102  
agccctttcc caggcggtag cgggggcagt ggtgctgttg cccttttaaa ctgcggcttg 60  
acgggagccg cgcctcctgt cgggtggagtc ggttataaag ggagcagccc cgcaggccgc 120  
cacatagctc ccgccaagtc ctcggtgccc cttgccattt tccagccgcg ctcccacgag 180  
ggtcacggcg gcggggagag gtggagccgc gagagctcgg ccgggggccc cgcctggtgg 240  
ccgcggccat gacagcggct cgggactggc tccttttccg cggccctccc gccggagggtg 300  
aggggaagat gtccatgtca gggttcaagg ccaaaccgaa gttactggcc tctatcttcc 360  
aggagaacca ggagccacag ccgcgggtca cgccccaccg caacattaag attacaagtg 420  
gacacctgag tcagcaggac ctggaatccc agatgagaga gcttatctac acgactcaga 480  
tcttggtgtc acccccatta ttgacaatcc aaagggtgcag aaagcactct gacaattcca 540  
attgctaadc cagcatttgt ggatagctgc aaactgcgat attgctgatg agcgctttga 600  
cgccacattc cacactaacg tgttggtgaa ttcttctggg cattgccagt acctgcctcc 660  
aggcatattc aagagttcct gctacatcg 689

<210> 103  
<211> 641  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic

<400> 103  
caggccgcca catagctccc gccaaagtcct cggtgcccct tgccattttc cagccgcgct 60  
cccacgaggg tcacggcggc ggggagaggt ggagccgcga gagctcggcc gggggccccc 120  
cctggtggcc gcggccatga cagcggctcg ggactggctc cttttccgcg cccctcccgc 180  
cggaggtgag gggaagatgt ccatgtcagg gttcaaggcc aaaccgaagt tactggcctc 240  
tatcttccag gagaaccagg agccacagcc gcggctcacg cccaccgcga acattaagat 300  
tacaagtgga cacctgagtc agcaggacct ggaatcccag atgagagagc ttatctacac 360  
gactcagatc ttgttgctac cccattatt gacaatccaa aggtgcagaa agcactctga 420  
caaataatga aacaaccacc atcgggttaa tttgatgcaa aaatattgca tctaccagca 480  
ttttcagttc caattgctaa tccagcattt gtggatagct gcaaactgcg atattgctga 540  
tgagcgcttt gacgccacat tccacactaa cgtgttggtg aattcttctg ggcattgcc 600  
gtacctgcct ccaggcatat tcaagagttc ctgctacatc g 641

```

<210> 104
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 104
gtaaagccac 10

<210> 105
<211> 140
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<220>
<221> misc_feature
<222> (6)..(134)
<223> n is a, c, g, or t

<400> 105
tgtccnnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn 60
nnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn 120
nnnnnnnnnn nnnngacgtg 140

<210> 106
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 106
gtgagtcccg 10

<210> 107
<211> 44
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<220>
<221> misc_feature
<222> (7)..(38)
<223> n is a, c, g, or t

<400> 107
gatgagnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnca aatg 44

```

<210> 108  
<211> 10  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic

<400> 108  
gtaagttaag

10

<210> 109  
<211> 110  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic

<220>  
<221> misc\_feature  
<222> (7)..(105)  
<223> n is a, c, g, or t

<400> 109  
tcttggnnnnn nnnnnnnnnnnn nnnnnnnnnnnn nnnnnnnnnnnn nnnnnnnnnnnn nnnnnnnnnnnn 60  
nnnnnnnnnnnn nnnnnnnnnnnn nnnnnnnnnnnn nnnnnnnnnnnn nnnnnnaacag 110

<210> 110  
<211> 10  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic

<400> 110  
gtaagcatat

10

<210> 111  
<211> 80  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic

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<220>
<221> misc_feature
<222> (7)..(73)
<223> n is a, c, g, or t

<400> 111
gctgatnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn 60
nnnnnnnnnn nnnccctccag 80

<210> 112
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 112
gtaagctgca 10

<210> 113
<211> 168
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<220>
<221> misc_feature
<222> (6)..(161)
<223> n is a, c, g, or t

<400> 113
gcataannnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn 60
nnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn 120
nnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn nctagtgg 168

<210> 114
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 114
gtaagccatg 10

```

```
<210> 115
<211> 195
<212> DNA
<213> Artificial Sequence
```

```
<220>
<221> misc_feature
<222> (6)..(188)
<223> n is a, c, g, or t
```

```

<400> 115
gaatcnnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn      60
nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn      120
nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn      180
nnnnnnnnntc cctgq                                     195

```

```
<210> 116
<211> 10
<212> DNA
<213> Artificial Sequence
```

```
<400> 116
gtaagcgccc 10
```

```
<210> 117
<211> 87
<212> DNA
<213> Artificial Sequence
```

```
<220>
<221> misc_feature
<222> (6)..(80)
<223> n is a, c, g, or t
```

```
<400> 117
ggatannnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn      60
nnnnnnnnnnn nnnnnnnnnn ttgatag                                           87
```

```
<210> 118
<211> 10
<212> DNA
<213> Artificial Sequence
```

```
<210> 119
<211> 110
<212> DNA
<213> Artificial Sequence
```

```
<210> 120
<211> 10
<212> DNA
<213> Artificial Sequence
```

```
<210> 121
<211> 519
<212> DNA
<213> Artificial Sequence
```

<400> 121  
accagannnnn nnnnnnnnnnnn nnnnnnnnnnnn nnnnnnnnnnnn nnnnnnnnnnnn nnnnnnnnnnnn 60  
nnnnnnnnnnnn nnnnnnnnnnnn nnnnnnnnnnnn nnnnnnnnnnnn nnnnnnnnnnnn nnnnnnnnnnnn 120  
nnnnnnnnnnnn nnnnnnnnnnnn nnnnnnnnnnnn nnnnnnnnnnnn nnnnnnnnnnnn nnnnnnnnnnnn 180  
nnnnnnnnnnnn nnnnnnnnnnnn nnnnnnnnnnnn nnnnnnnnnnnn nnnnnnnnnnnn nnnnnnnnnnnn 240  
nnnnnnnnnnnn nnnnnnnnnnnn nnnnnnnnnnnn nnnnnnnnnnnn nnnnnnnnnnnn nnnnnnnnnnnn 300  
nnnnnnnnnnnn nnnnnnnnnnnn nnnnnnnnnnnn nnnnnnnnnnnn nnnnnnnnnnnn nnnnnnnnnnnn 360  
nnnnnnnnnnnn nnnnnnnnnnnn nnnnnnnnnnnn nnnnnnnnnnnn nnnnnnnnnnnn nnnnnnnnnnnn 420  
nnnnnnnnnnnn nnnnnnnnnnnn nnnnnnnnnnnn nnnnnnnnnnnn nnnnnnnnnnnn nnnnnnnnnnnn 480  
nnnnnnnnnnnn nnnnnnnnnnnn nnnnnnnnnnnn nnnnnnnnnnnn 519

<210> 122  
<211> 2619  
<212> DNA  
<213> Homo sapiens

<400> 122  
gaatttctaaa ccatataata cacatttgga ctccacacct aagcctaata cacttttttgg 60  
tttttaaatg tgtaattatc tttttccccc tatccggagc ccaagcagaa aacatgcttc 120  
cttcacattc cctggctaata ggttgaggtt tcctgggtctt ttttacctg gaaaggagat 180  
tacaccaatt tctggattta tgtgaatata tcagttccag ttccccacct ctcataggcc 240  
ccaagcccaa ggtcacctta cctcctgaga gtgtgttaaa atttccctct taccataga 300  
atctatatatt ttggtatgcc caggcatgta ttcacatcct gctatgtttt atttgctgtt 360  
ttttttttgt ttttttttgt tttttttttt tttgcttttg gaacgggagt gagtgtagaa 420  
cctatacagt cccgtcagct ctattccaag aatgttctgc tcttttcttc gtttcacaaa 480  
tgaaaaacct gagtcccata gatgggagtc aatacagcca aactcacaga cctacctatg 540  
gcacagggga gactgaagtt tattttccaa cttccagcag tcctacattg taagctgagt 600  
gagtggactg cgcttgacag tcctccaggt gcctagcgag aacagaggac aaataaatat 660  
ttacgaattg cttgtctcac ctgaaaatgg tttatttcta ggtttctgat attatggggt 720  
gcaatggcgg taaagaagca gttctgggtt caggaatgtg atcctgatag ccatactcca 780  
gaaaaaatca ataaattccc ttggcccat gggctcatgc tcttctagaa gggaagacag 840  
ggctcttagg tactttcagc gctcgtagaa gagtgtgtgt acagtcccat gaccagtgca 900  
ggggatgtgc cactgagaat cttttcactg atgcttcatg ggctttctct attctgctac 960  
tgggttttat ttcccttctt ctaattctcc ctttaccac aactaatccc ctgtagataa 1020  
ttaattcatc aagtgcctgc tctgtgatgt ccggactgct agaagtggta gggggactca 1080

|            |            |             |            |            |             |      |
|------------|------------|-------------|------------|------------|-------------|------|
| agagccagat | gaagctaagg | gcacgcctgt  | ctgctctcca | gggacccctg | gcgtcccttt  | 1140 |
| ctcctggcag | aatgactgct | atcctttgag  | gtgaatccag | ttcagctgtc | acctcttcta  | 1200 |
| ttaaccactc | tccaaaaaca | gctaatacctt | cttctaggct | cttaccgcag | ttatgaaagc  | 1260 |
| ctatgctgac | cctttgttta | aacatgtgta  | cattaacagt | aatacattta | agacacttca  | 1320 |
| tggcaagggc | aatatactgc | gttattcttc  | caaatacaat | agttgggctc | agtcccccac  | 1380 |
| tcctgctact | ggggtacagt | caagctcagt  | caccttttgg | tgagcctttc | cctagttctt  | 1440 |
| ggagtcttaa | aagaatcccc | tggttttcgg  | cagttcagaa | accaggcat  | tgccgctgcg  | 1500 |
| tgggccacgg | gagttgctct | ggtggagctc  | ggatgcccgg | gggctgcagg | aaagaagggtg | 1560 |
| gcagcgcccc | ctacgcggac | gcagggcgct  | gctgtgctca | gcagaaggga | gcaaataggga | 1620 |
| tggagcttca | gccaccctgg | aagccgcccc  | ttggcgccct | cctccctccc | ttcctctttc  | 1680 |
| caaaatcaag | ccccctcttc | aacatcaaga  | actctccgca | ctccctggac | ctctcagagc  | 1740 |
| ctctcctcat | ttactctttc | caatgcgctg  | gctcaaaaga | gcctagataa | gaacaccaag  | 1800 |
| ttctggctgt | ccttccagca | aagagttagg  | agttaacttt | tcaatctttt | ttaatctcct  | 1860 |
| ttaaaaaaga | atgagccata | cattagggta  | accactggga | atcccatcac | acacattggc  | 1920 |
| ggcatctctc | ctccccgaca | gggtgcctcc  | agcacttcag | atcccagccg | agagtctggc  | 1980 |
| tgctggcgcc | cagcaaacgg | tgcggaaagc  | aaaccggggc | tcgcggaag  | cgggaggagg  | 2040 |
| ggggcttcct | cgggtctgtt | ttgtctggtt  | ggcaagactt | ccgaagcctg | gttccctata  | 2100 |
| gctgccaccc | ggtcgctggc | gtggaggagg  | gagtccggga | agactggacc | ccagaattgt  | 2160 |
| cccggctttc | tcccagtgct | ccagcgcagc  | ttctggctga | gagcgggagc | gggctgagtg  | 2220 |
| gggacaaaga | acgcaaggga | gaggtagagc  | ctggccttgg | gcagcccctg | gcctggccag  | 2280 |
| aggcgcgagg | ccgagagccc | gctcggtgga  | gactgggggt | ggaggtgccc | ggagcgtacc  | 2340 |
| cagcgccggg | agtacctccc | gctcacacct  | cgggctgcag | ttccctgggt | ggccgccgag  | 2400 |
| acgctggccc | gggctggagg | gatggggggg  | cggggacggg | ggcggggggc | gggctcgtca  | 2460 |
| cgtggagagg | cgcgcggggg | cgggcggggc  | gggggcgcgc | gcccggtccc | ttaaaggcgc  | 2520 |
| gcgagccgag | cggcgaggtg | cctctgtggc  | cgagggcgca | ggcccggggc | acagccgaga  | 2580 |
| cgtggagcgc | gccggctcgc | tgcagctccg  | ggactcaac  |            |             | 2619 |

<210> 123  
 <211> 2087  
 <212> DNA  
 <213> Homo sapiens

<400> 123  
ggcacgagga gccgagcggc gaggtgcctc tgtggccgca cggcaggccc gggcgacacg 60  
gagacgtgga gcgcgccggc tcgctgcagc tccgggactc aacatgcgct gctcgccggg 120  
aggcgtctgg ctgggcctgg ccgcgtcgct cctgcacgtg tccctgcaag gcgagttcca 180  
gaggaagctt tacaaggagc tgggtcaagaa ctacaatccc ttggagaggc cctgggcca 240  
tgactcgcaa ccactcaccg tctacttctc cctgagcctc ctgcagatca tggacgtgga 300  
tgagaagaac caagttttaa ccaccaacat ttggctgcaa atgtcttgga cagatcacta 360  
tttacagtgg aatgtgtcag aatatccagg ggtgaagact gttcgtttcc cagatggcca 420  
gatttggaac ccagacattc ttctctataa cagtgtgat gagcgctttg acgccacatt 480  
ccacactaac gtgttggtga attcttctgg gcattgccag tacctgcctc caggcatatt 540  
caagagtcc tgctacatcg atgtacgctg gtttcccttt gatgtgcagc actgcaaact 600  
gaagtttggg tcctggctct acggaggctg gtccttggtat ctgcagatgc aggaggcaga 660  
tatcagtggc tatatcccca atggagaatg ggacctagt ggaatccccg gcaagaggag 720  
tgaaaggctc tatgagtgtc gcaaagagcc ctaccccgat gtcaccttca cagtgaccat 780  
gcgccgcagg aactctact atggcctcaa cctgctgatc ccctgtgtgc tcatctccgc 840  
cctcgccctg ctggtgttcc tgcttctgc agattccggg gagaagattt ccctggggat 900  
aacagtctta ctctctctta ccgtcttcat gctgctcgtg gctgagatca tgcccgaac 960  
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 35 40 45

Gln Pro Leu Thr Val Tyr Phe Ser Leu Ser Leu Leu Gln Ile Met Asp  
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Val Asp Glu Lys Asn Gln Val Leu Thr Thr Asn Ile Trp Leu Gln Met  
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Ser Trp Thr Asp His Tyr Leu Gln Trp Asn Val Ser Glu Tyr Pro Gly  
 85 90 95

Val Lys Thr Val Arg Phe Pro Asp Gly Gln Ile Trp Lys Pro Asp Ile  
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Leu Leu Tyr Asn Ser Ala Asp Glu Arg Phe Asp Ala Thr Phe His Thr  
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Asn Val Leu Val Asn Ser Ser Gly His Cys Gln Tyr Leu Pro Pro Gly  
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Ile Phe Lys Ser Ser Cys Tyr Ile Asp Val Arg Trp Phe Pro Phe Asp  
 145 150 155 160

Val Gln His Cys Lys Leu Lys Phe Gly Ser Trp Ser Tyr Gly Gly Trp  
 165 170 175

Ser Leu Asp Leu Gln Met Gln Glu Ala Asp Ile Ser Gly Tyr Ile Pro  
 180 185 190

Asn Gly Glu Trp Asp Leu Val Gly Ile Pro Gly Lys Arg Ser Glu Arg  
 195 200 205

Phe Tyr Glu Cys Cys Lys Glu Pro Tyr Pro Asp Val Thr Phe Thr Val  
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Thr Met Arg Arg Arg Thr Leu Tyr Tyr Gly Leu Asn Leu Leu Ile Pro  
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Cys Val Leu Ile Ser Ala Leu Ala Leu Leu Val Phe Leu Leu Pro Ala  
 245 250 255

Asp Ser Gly Glu Lys Ile Ser Leu Gly Ile Thr Val Leu Leu Ser Leu  
 260 265 270

Thr Val Phe Met Leu Leu Val Ala Glu Ile Met Pro Ala Thr Ser Asp  
 275 280 285

Ser Val Pro Leu Ile Ala Gln Tyr Phe Ala Ser Thr Met Ile Ile Val  
 290 295 300

Gly Leu Ser Val Val Val Thr Val Ile Val Leu Gln Tyr His His His  
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Asp Pro Asp Gly Gly Lys Met Pro Lys Trp Thr Arg Val Ile Leu Leu  
 325 330 335

Asn Trp Cys Ala Trp Phe Leu Arg Met Lys Arg Pro Gly Glu Asp Lys  
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Val Arg Pro Ala Cys Gln His Lys Gln Arg Arg Cys Ser Leu Ala Ser  
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Leu Tyr Ile Gly Phe Arg Gly Leu Asp Gly Val His Cys Val Pro Thr  
 385 390 395 400

Pro Asp Ser Gly Val Val Cys Gly Arg Met Ala Cys Ser Pro Thr His  
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Asp Glu His Leu Leu His Gly Gly Gln Pro Pro Glu Gly Asp Pro Asp  
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Leu Ala Lys Ile Leu Glu Glu Val Arg Tyr Ile Ala Asn Arg Phe Arg  
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Cys Gln Asp Glu Ser Glu Ala Val Cys Ser Glu Trp Lys Phe Ala Ala  
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Cys Val Val Asp Arg Leu Cys Leu Met Ala Phe Ser Val Phe Thr Ile  
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